

Work Order ID 147218

147218

Page 1

Monday, October 24, 2016 10:54:10 AM

Item ID: D3118-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Sign Assembly
Start Date: 6/7/2016 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 7/20/2016 Req'd Qty: 4.00 ***4*** Customer:

Reference: **DAS 13 9-69**
Approvals: Process Plan: **DAS 13 9-69** Date: **OCT 24 2016** Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3118	E

100 PURCHASING 0.00 ***100*** **DAS 13 9-69**
Purchasing Memo 0.00 **4 OCT 24 2016**
Purchasing Issue P/O: **34036**
Manufacture as per dwg D3118
Possible Supplier: SRB TECHNOLOGIES
Supplier P#: 9004043
Material release note required
Sign should be self-luminous to min. brightness of 160 microlamberts

110 Receive & Inspect for Damage & Mat'l Certs 0.00 ***110***
Packaging Memo 0.01 **4x SP/16-125**
Packaging Ensure Material Release Note is attached

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC6- Inspect dimensions to drawing Memo Check dims to dwg and certification attached	0.00 0.00				4			DAS 30 DEC 06 2016
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: <u>Stop</u> Memo	0.00 0.01				4			DAS 6 DEC 08 2016 9-88
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.07							16/12/13 vs 16/12/08 DAS 21 9-89

Picklist Print

Tuesday, June 07, 2016 2:26:53 PM

Page 1

Work Order ID: 147218

147218

Parent Item: D3118-3

D3118-3

Parent Item Name: Sign Assembly

Start Date: 6/7/2016

Required Date: 7/20/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP A: 02.05.15 New Issue NG
12.05.11 AS PER DWG REV.D DD VERF:EC

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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9004043

Purchased

No

Each

0.0000

9004043

Sign Assembly

**

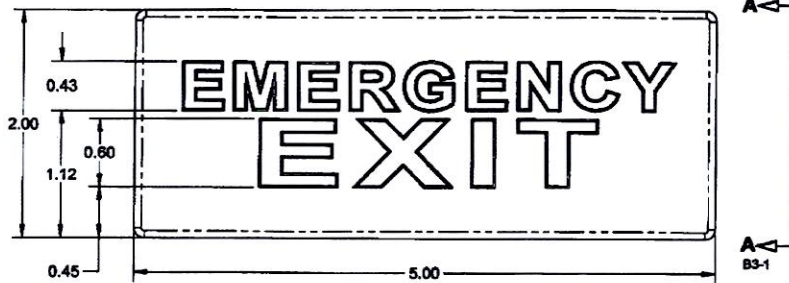
4

4x Sp/6-12-5

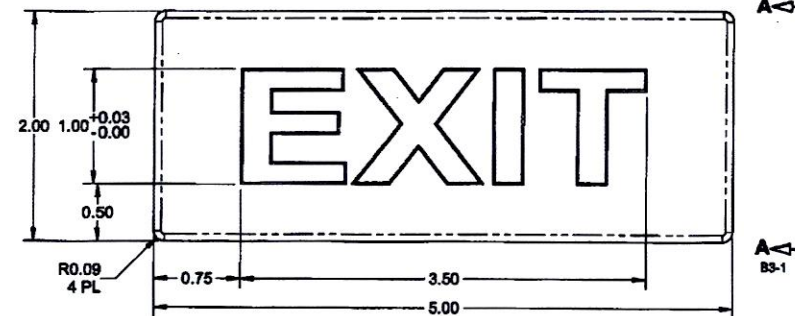
JUN 07 2016

W10: 147218

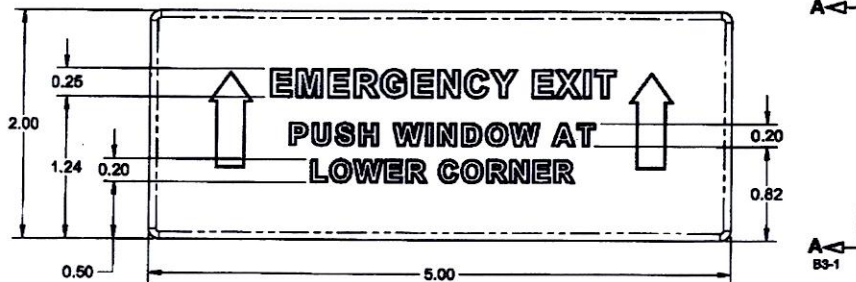
SPECIFICATION CONTROL DRAWING



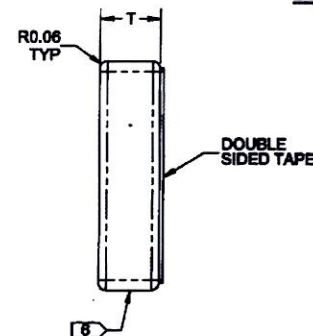
D3118-1 SIGN ASSEMBLY
REPLACES PREMIER P/N 027-57000-01,
BHT P/N 46660-01006-00



D3118-5 SIGN ASSEMBLY



D3118-3 SIGN ASSEMBLY
REPLACES PREMIER P/N 027-57000-03,
BHT P/N 212-072-637-107



VIEW A-A

RELEASED
2013-08-01
M

NOTES:

- 1) MATERIAL: POLYCARBONATE
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: WITH DART P/N "D3118-X" AND B/N "BXXXX" PER DART QSI 044 8.1
- 7) WEIGHT: 0.30 lbs EACH
- 8) POSSIBLE SUPPLIER: SRB TECHNOLOGIES (CANADA), INC
320-140 BOUNDARY ROAD
PEMBROKE, ONTARIO, K8A 6W5
PHONE: 613-732-0055
FAX: 613-732-0056
- 9) SEE TABLE FOR SUPPLIER PROCUREMENT P/N'S
- 10) SIGNS SHOULD BE A RED BACKGROUND, CLEAR LETTERING WITH WHITE BORDER AROUND EACH LETTER
- 11) SIGNS SHOULD BE SELF-LUMINOUS TO MINIMUM BRIGHTNESS OF 160 MICROLAMBERTS

DART PART NUMBER	SUPPLIER PART NUMBER	THICKNESS "T"
D3118-1	9004030	0.52
D3118-3	9004043	0.52
D3118-5	9004001	0.86

REV.	DESCRIPTION	BY	DATE
E	REVISE SUPPLIER AND SUPPLIER PART NUMBERS	SFM	13.07.16
D	UPDATED TO COMPLY WITH QSI 043; ADDED SUPPLIER P/N PROCUREMENT CHART (ZN 44-1) REF: PAR11-127	MB	11.11.02
C	ADD D3118-5	RF	05.02.22
B	ADD MINIMUM BRIGHTNESS = 160 MICROLAMBERTS	RF	04.08.05
A	NEW ISSUE	RF	02.04.15
DESIGN	DRAWN	SFM	
CHECKED	MFG. APPR.		
APPROVED	DE APPR.		
DATE	13.07.16		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.
D3118

TITLE
SIGN ASSEMBLY

REV. E

SHEET 1 OF 1

SCALE

NTS

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO34036

Purchase Order Date 10/24/2016 10:50:11 AM
PO Print Date 10/26/2016

Page Number 1 of 1

Order From : VU-ROY001

ROYAL BANK VISA
XXX

XX, X

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED

REVISED

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via: FedEx Overnight collect

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

COD

USD

Destination-Collect

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
	Delivery Comments						
1	9004043	Sign Assembly	12/6/2016 Yes 12/6/2016		4.00 Each	\$810.86	\$3,243.44
	AS PER DWG D3118 REV. E B147218						
						Line Total:	\$3,243.44
2	71401-45	PROCUREMENT QUALITY CLAUSES	12/6/2016 No 12/6/2016		1.00	\$0.00	\$0.00
	Quality Procurement Clauses A005 RIGHT OF ENTRY A016 PERSONNEL QUALIFICATION A026 CERTIFICATE OF MATERIAL CONFORMANCE A041 QUALITY MANAGEMENT SYSTEM A042 DART NOTIFICATION BY SUPPLIER A043 RETENTION OF QUALITY DOCUMENTS						
						Line Total:	\$0.00
						PO Total:	\$3,243.44

PO Instructions: SRB TECHNOLOGIES

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 2

Change Date: 10/26/2016

SRB TECHNOLOGIES (CANADA) INCORPORATED

320 Boundary Road, Suite 140, Pembroke, Ontario, Canada; Phone (613) 732-0055

SRB26545

SHIPMENT PACKING SLIP AND MANIFEST

DATE:	December 2, 2016
WAYBILL #:	Fedex: 6558 2169 9634
DESTINATION:	Dart Aerospace Ltd; Hawkesbury, ON, Canada

BOX	WORK ORDER	DESCRIPTION	UNITS	ACTIVITY (Ci.)
1	PO34036	LINE 1; D3118 ✓ SIGN ASSEMBLY SRB P/N: 9004043 S/N: 30328 - 30331	4	17.00
		CERTIFICATE OF CONFORMANCE	1	
		UN2911 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES.		
		DAS		

DAS
38
9-89

TYPE OF SHIPMENT:

UN2915

☒ UN2911

UN2910

REGULAR

OTHER (SPECIFY):

NO. OF PACKAGES:

1

PACKED BY:

Lynn Young - Import/Export Specialist

TOTAL ACTIVITY:

17.00

Ci.

ATTN: Chantal Lavoie

DIM (in):

9 x 9 x 11

www.betalight.com

SHIPMENT WEIGHT (lbs.)

2



Canadian Nuclear Safety Commission

Radiation Safety Data Sheet

This data sheet presents information on radioisotopes only.

For information on chemical compounds incorporating this radionuclide, see the relevant Material Safety Data Sheet.

Part 1 - RADIOACTIVE MATERIAL IDENTIFICATION

Chemical Symbol:	H	Common Names:	Tritium
Atomic Weight:	3	Atomic Number:	1

Part 2 - RADIATION CHARACTERISTICS

Physical Half-Life: 12.35 years

Unconditional Clearance Levels: Activity Concentration (Bq/g) 1×10^2

CNSC Exemption Quantity: Activity Concentration (Bq/g) 1×10^6
Activity (Bq) 1×10^9

Principal Emissions	Average Energy of Most Abundant Emission (MeV)	Maximum Energy of Most Abundant Emission (MeV)	Gamma-Ray Dose Rate at 1m Distance (mSv/h per GBq)	Shielding Information ¹
Neutrons	-	-	-	-
Gamma & X-ray	-	-	-	-
Beta* & Electron	0.0057	0.0186	-	Total absorption: <0.1 mm glass or <0.1 mm plastic
Alpha	-	-	-	-

* Where beta radiation is present, bremsstrahlung radiation will be produced. Shielding for bremsstrahlung radiation must be considered.

¹Delacroix, D. et al, Radionuclide and Radiation Protection Data Handbook 2002.

Progeny

Part 3 - DETECTION AND MEASUREMENT

Method of Detection:

Wipes counted by a beta probe (e.g., wipes counted by a liquid scintillation counter)

Dosimetry:

External: TLD (whole body & skin) _____ Extremity _____ Neutron _____

Internal: Whole body _____ Thyroid _____ Urine analysis ☒ Other (specify) _____

Part 4 - PREVENTATIVE MEASURES

Tritium is not a radiation hazard unless it enters the body. Once in the body, tritiated water is uniformly distributed in the body water and can then expose tissue. The dose from inhaled elemental tritium gas is 10,000 times less than that from tritiated water. Tritiated water can be absorbed through the surface of skin, leading to an internal exposure. Gaseous tritium is a fire and explosion hazard when exposed to heat or flame and can react vigorously with oxidizing materials.

Recommended protective clothing: Lab coat and PVC gloves (0.5 mm thick) are preferred because of this material's low permeability to tritiated water. Many tritium compounds readily penetrate gloves and skin. Handle these compounds remotely, wear two pairs of gloves and change the outer layer at least every twenty minutes. Plastic aprons provide added protection especially against tritiated water. Plastic suits may be necessary for work at TBq levels or in an atmosphere contaminated with tritiated water.

Handle tritiated water, gases and volatile liquids in ventilated enclosures. Use glass containers to store tritium compounds because tritiated water and tritiated organic solvents will pass through plastic. Use disposable absorbent liners on trays.

Consult CNSC license for requirements concerning engineering controls, protective equipment, and special storage requirements.

Part 5 - ANNUAL LIMIT ON INTAKE

	Ingestion	Inhalation	
Compound Type	Tritiated water	Tritiated water	Elemental tritium gas
Annual Limit on Intake (Bq)	1.0×10^9	1×10^9	1.0×10^{13}

EMERGENCY PROCEDURES

The following is a guide for first responders. The following actions, including remediation, should be carried out by qualified individuals. In cases where life threatening injury has resulted, **first** treat the injury, **second** deal with personal decontamination. In the case of an emergency, the Radiation Safety Officer should be contacted as soon as practicable.

Personal Decontamination Techniques

- Wash well with soap and water and monitor skin
- Do Not abrade skin, only blot dry
- Decontamination of clothing and surfaces are covered under operating and emergency procedures

Spill and Leak Control

- Alert everyone in the area
- Clear area
- Summon Aid

Emergency Protective Equipment, Minimum Requirements

- Gloves
- Footwear Covers
- Safety Glasses
- Outer layer or easily removed protective clothing
- Suitable respirator selected

Canadian Nuclear Safety Commission
P.O. Box 1046, Station B
Ottawa, Canada
K1P 5S9

Tel: (613) 995-5894 Fax: (613) 995-5086
24 Hour Emergency Hotline: (613) 995-0479

Revision number: 1

Date of revision: 19 September 2011

**SRB TECHNOLOGIES (CANADA) INC.**

320-140 Boundary Road
Pembroke, Ontario, Canada, K8A 6W5

Tel.: (613) 732-0055

Fax: (613) 732-0056

E-Mail: sales@betalight.com

Web: www.betalight.com

CERTIFICATE OF CONFORMANCE

ACCOUNT TO:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON
Canada K6A 1K7

CERTIFICATE OF CONFORMANCE ID:

CDN005417

YOUR REFERENCE:

PO34036

OUR REFERENCE:

PO34036

DATE:

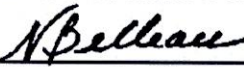
December 2, 2016

ITEM #	PART NUMBER	DESCRIPTION/ SPECIFICATION	QUANTITY	REMARKS/ DELIVERY POSITION
1	9004043 (D3118-3) SRBT P/N: 9004043	Sign Assembly T 4.25 Ci. (157.25 GBq) S/N's: 30328 - 30331 (Ref. Dwg# D3118 Rev. E)	4	Batch # B34036 (PO34036) Mfg. December/2016

This is to certify that the whole of the material and/or parts described herein have been manufactured to the quality standards registered under ISO 9001:2008 and conform to the full specification of the appropriate drawings and purchase order requirements.

Test methods for Betalights™ and devices containing Betalights™, including leakage and surface contamination, conform to the British Defence Standard 62-4/4 and/or ANSI/HPS N43.4-2000.

Signed for on behalf of SRB Technologies (Canada) Inc.


N. Belleau, Quality Manager